

The Ginger Beer Chronicles

To begin, the reason for this is as much for my own records as it is for others who may wish to follow along. I have always enjoyed Ginger Beer. My father told me many years ago that he always used to ask for a dash of Ginger Beer in his schooners at the pub in summer. He said it made it a more refreshing drink. This may surprise some, but as a kid, for 9th hole refreshment on the Everglades Golf Course, I was introduced to Ginger Beer and milk by the old English couple who used to run the kiosk there in the middle of the course. On a hot day, ice cold it was amazing. Try it for yourself. 50/50 with ice.

My dad was a home brewer using all grain way back in the 1960's. He used to pinch my glass marbles to keep his grain sack (mum's nylon pantyhose) submerged in the crab boiler, and I remember the brewery smell of malt and hops in our house on brew day.

He and mum used to also make Ginger Beer and store it under the cool side of our house which was directly under my bedroom. I remember one time they started exploding. When I asked dad about it recently, he said it was a mistake by mum. The first time she made it on her own when she put 2 packets of sugar in instead of 2 lb (1 packet).

There was a time when I was on medication that prevented me from drinking alcohol (or at least it was meant to) and when I went out to functions, I would ask for schooners of Ginger Beer (sometimes Dry Ginger Ale) with a dash of whatever beer was on tap. This was also when my father told me that you don't have to put the full 1kg of fermentable sugar in with the Cooper's cans. He was making it himself up in Qld, near Maryborough at the time using none and you get about 3 % I think. I've been making brew ever since with never any more than 350g and usually only 133g or 200g which gives me 6 or 5 brews to a 1kg bag of whatever I'm using. That's a bit off topic.

So anyway, for those of you who don't know, the Saxby brand of Ginger Beer soft drink, available in supermarkets, is still packaged in brown glass bottles and comes in sizes of either 375 ml or 750 ml. Unlike Bundaberg, which has a ring-pull top, Saxby bottles are screw top and guess what!. Standard PET home brew bottle lids screw right on. Whether they are meant to be re-filled or not is a different subject again, hey Nick. However, when I was brewing 15 years ago, I bought the 6 packs of 375 ml bottles every time I saw them on special and I ended up with about 90. I used to regularly make and bottle a batch of beer in these stubbies 60 at a time. None of them ever exploded on me although I did drop a few. I still have them. I've also recently bought 15 of the 750 ml bottles which I've been mixing with home brewed "Spring lager" that didn't quite work out for me. Too warm I think, and they had the green apple taste of acetaldehyde. Only slightly, but enough to make you go bluurrggghh. Adding a dash of GB on top of the glass turned these from shite to a refreshing drink.

Now for my experiments into brewing Ginger Beer. I want to make regular sized batches (23 litres) of home-made Ginger Beer. Ginger Beer Plant (GBP or Bug) is very common in recipes and relatively easy to make, or some recipes use yeast. I've begun to experiment

with both and here are my notes and records along the way. Most recipes and online videos are for small batch (6 bottles), use heaps of sugar and try to arrest fermentation at the stage where there is residual sugar for sweetness but enough to do carbonation without exploding bottles. It's all guesswork but I suppose you could get to the point where it works most of the time. There are several problems with this approach, so I want to make regular home brew size batches and be able to bottle for storage. I'm not interested in kegging.

The big problem is sweetness. If you ferment it right out, you get a very dry drink which is not really all that nice at all. I hate artificial sweeteners and I have used lactose in the past with Apple Cider, so I'm going to focus on this to begin with. Kit GB typically uses AS (artificial sweeteners) and many people complain about the after-taste. I've bought a Brigalow kit to try out just to see how bad it actually is, but my tolerance to AS is none, so I'm not optimistic.

I've begun with small quantity batches. 1.5 litres in 2 litre glass flagon bottles * (see note1). I punch a hole in the lid with a 10 mm hole punch and hammer, put a grommet in and the airlock pushes in and seals perfectly. I also bought a bung with hole to fit the 5 litre glass carboys, available for the HBS and I've got my first 5 litre batch under airlock as I write up this first set of notes. This is the first 10 days of my experimentation.

*Note: 2 litre flagons were obtained from COSPAC in Beresfield, Newcastle for only a couple bucks each but last time I tried to get some there was no supply due to Covid.

Preliminary

Cane sugar = 46 ppg = 382.5 pkg! (X 3.78 l/gal X 2.2 lb/kg)

So, 100g / litre = 38.25 points for SG of 1.038 (approx' 5% ABV potential)

60g / litre = 22.9 points for SG of 1.023 (approx' 3% ABV potential)

Note: The amount of sugar used in some recipes and videos is ridiculous. One video used 260g / litre. This is the level you could use to make a sugar wash for rum distillation.

From recipes I've seen, these common or essential ingredients are used in these approximate amounts, and this will be my starting point.

Ginger Root: 750g in 25 litres = 30g / litre or 1 fl oz / quart (US)

Lemon Juice: 150ml in 25 litres = 6 ml / litre or approx. 1 tsp / litre or quart (US)

Bug Plant: 1 litre in 25 litres = 40 ml (2 TBSP) / litre or approx. 2.5 TBSP / quart (US)

Hot Water: 2 litres in 25 litres = 80ml (1/3 cup) / litre or quart (US)

Lactose: Packet recommendation is approx. 20 g / litre but local HBS "Old Mate" suggested 10 g / litre is sufficient.

The Bug or Ginger Beer Plant.

25/01/2023

750 ml water (I'm on tank water so no chlorine)

55g of fresh ginger root finely chopped.

50g white cane sugar.

I fed this plant the same amount of ginger and sugar every day for 5 days, when I used a small amount in my first experimental run. This was continued until I doubled its quantity and I've continued to feed it daily with double the amount of ginger and sugar. I have been using the strained ginger from boiling and steeping as well as fresh. No point wasting what came out of the steeping process. I intend to refrigerate the bug soon and only feed it weekly otherwise it will become too expensive to maintain.

29/01/2023

My sister sent me the recipe from Margaret Fulton Cookbook circa 1970's using ground ginger. I've given it a try, but it may not be something I will persevere with. The second test batch I did used this bug, which is started with yeast, but I found it had a chalky mouth feel, but read further down because it may have some use.

Test #1

30/01/2023 1560ml

120ml cold water used to blend (Nutri-Bullet blender).

45g ginger root

1.5 tsp Lemon Juice (bottled because it's cheap and I kept the lemons for fish dinner)

90g sugar (potential ABV of 3%) calculated starting gravity of 1.023.

Extra 120 ml water to rinse blender.

Heat in pan to boil than allow to steep for 10 – 15 minutes.

Strain into 2 litre flagon and top up to 1500ml with cold water (temp down to not kill bug)

60ml GBP (strained and solids returned to jar)

Fermented at 22°C. On 2/02/2023 it was 1.018 so it had dropped 5 points in 3 days. It dropped 4 points each day after that, and I bottled it into 2 PET bottles at 1.010 on 4/2/2023 with no priming sugar but added approx. 1.5 tsp of Lactose.

Bottles were kept in 22°C and burped daily (twice on the 6th Feb) and then one was chilled on 8/02/2023 (yesterday) and taste tested after about 4 hours in the fridge. I'll do the second one today.

See taste test evaluations below.

Test #2

31/01/2023 1560ml

240ml (1 cup) water

1 tsp ground ginger

1.5 tsp bottled lemon juice

90g sugar (potential ABV of 3%) calculated starting gravity of 1.023.

Water up to 1560 ml

¼ tsp WW lager yeast (The Margaret Fulton bug is not ready to use).

Set up is the same as above in 2 litre flagon. This batch had caught up to the SG of test #1 by 2/02/2023 and had dropped 5 points in 2 days and tracked the same for next 2 days so it was also bottled in 2 PETs on 4/02/2023 at 1.010, with no priming sugar and 1.5 tsp of lactose.

Bottles were kept in 22°C and burped daily (twice on the 6th Feb) and then one was chilled on 8/02/2023 (yesterday) and taste tested after about 4 hours in the fridge. I'll do the second one today.

See taste test evaluations below.

Note: The remnants of both primary flagons were poured into a 500ml soft drink bottle and topped up with water and an extra 1 tsp of sugar with 1 tsp of lactose. Kept and burped along with the others. This bottle was extremely active during the conditioning stage in the bottle and the foam would erupt towards the lid when cracked. It took several goes at cracking and freeing pressurised gas each day. The main bottles were much less vigorous.

Taste Testing #1 and #2 plus mixed bottle.

I measured the FG of each sample upon pouring but I'd broken my hydrometer so was using a different one. It shouldn't matter but I had some odd readings. It was measured cold though as opposed to 22°C for the early readings.

I tested the **mixed bottle** first.

FG: 1.001, so it had dropped completely from 1.010 plus additional tsp of sugar (and extra water, so unknown really) to completely fermented and dry. So, this explains the very active carbonation in the bottle. It had loads of sediment (ground ginger and yeast) in the bottom.

My notes from tasting.

Very dry, **watery (expected), with very little ginger flavour or burn**, chalky mouth feel, minimal sweetness from lactose, a good clear drink as poured quickly off sediment. Carbonation was excellent. Nice and fizzy and kept going for entire drink.

Test #1 (bottle 1)

The 750ml bottles were poured into a 1 litre jug immediately after opening to prevent foaming over, if it was going to happen. I don't think they would have fizzed over. THE FG of this bottle confused me as it was bottled at 1.010 and had been bottle conditioning actively for 3 days with burping. The addition of lactose should not have had this much effect on the gravity, but it still read 1.010.

My notes from tasting.

Carbonation is good with good size bubbles continuing for whole drink. The aroma is nice and gingery/ citrusy. Ginger flavour is nice and overall flavour is good but could be a bit stronger. It was not really dry but had a little sweetness (not sugary at all), which did seem to grow the more you had. Quite nice and a refreshing drink with a nice level of ginger burn and a good balance of ginger and lemon. Could probably use more flavour so either slightly more ginger and LJ and possibly other adjuncts (ie: honey, spices)

It is drinkable but more work is needed. It needs more sweetness so either more lactose or possibly honey. The second half I added to the top of ½ nip of coconut rum (aka Malibu). Yum, but that's cheating.

Test #2 (bottle 1)

The gravity reading on this had me scratching my head. The activity in priming of this one was less than test #1 but it was still occurring, and the bottles did require burping, but the SG had gone up from 1.010 to 1.012. OK, so there is lactose added but the reading should not have gone up with active fermentation going on.

Result, it was nearly flat. Very tiny bubbles, although they did last the whole jug (2 drinks). Was it burped too much or not sealed properly at some point? The flavour is ok but very weak compared to fresh ginger and there is no burn at all. There is some sweetness which is quite good (maybe some residual sugar), but it has a chalky mouth feel (??? Ground ginger).

It is a drinkable refreshing drink but I'm not sure I'd go much further with this as it is inferior to fresh ginger in flavour and burn.

Test #1 (bottle 2)

24 hours later and this bottle was down to 1.006 so down another 4 points. I burped the bottles in the morning and let it build up again for a few hours before putting them in the fridge for about 3 hours to chill. The only real notable change from the first bottle is that it is dryer. It is a nice drink but requires the sweetness increased. ??? more lactose up to the 10g / litre.

Test 2 (bottle 2)

Now this one has confused me no end because while I was puzzled yesterday that the SG had gone up instead of down, today it was still at 1.012. Where the GBP test had dropped another 4 points this one hadn't budged. It had better carbonation than yesterday so it must have been fermenting, unless the first bottle had been leaking gas at some point due to the burping.

The interesting thing here is that this batch with ground ginger and yeast appears to be more stable in the bottle and this may be of some benefit. I'm thinking that a hybrid could be worth investigation.

Chapter 2

After testing the first 2 batches I immediately set up 4 new tests. For 2 I used the same 2 x 2 litre flagons to run a test of the Margaret Fulton recipe (**Test #5**) and also the Indian Ginger Paste (with oil) (**Test #4**). I foolishly added a couple of sultanas to the latter and ended up with an issue, so I don't know which was the cause. Was it the oil in the ginger or the sultanas? I used my Ginger Bug (let's assume it isn't a GBP) and the fermentation was reasonable but nothing like a yeast ferment. Very slow and steady.

On about day 3 in the fermenter under air lock, I noticed several patches of a white hairy growth on the surface. I just assumed it was a lacto flower, so I shook it up a bit and they disappeared and didn't come back. I don't know if it was the sultanas or the ginger from the jar. I should only try to test 1 thing at a time in future.

The Margaret Fulton sample, this time using the bug / starter prepared using ground ginger. Fermentation was nearly non-existent. There was hardly any bubbling through the air-lock but it did maintain an outward imbalance of the fluid level which indicated positive pressure inside the flagon. It would bubble if I gave it a swirl.

Both test samples were bottled after 5 days, allowed to carbonate with burping for 3 days and I now have a sample of each in the fridge to taste test today. I am 100% certain that I did not mix them up but while in the bottle, the Margaret Fulton samples grew hair, which again disappeared and didn't return when shaken / de-gassed. I'm not sure how they will go or if I'll end up drinking all of them as there are many warnings to dispose of anything

that gets funky. Hairy growth on these would fit that description I think, but lacto is not always a bad thing in ferments.

Test #3

One of the other tests I did was to make an “instant” mix. Mix it all up using more sugar and bottle immediately. For this I used 3 x 1.25 litre PET bottles (Little Fat Lamb). I used 100g of sugar per litre (pot’ ABV 5%) and the same ratios of other ingredients. I’m happy with 30g of ginger and 5 ml of LJ / litre for flavour. I had dropped 2 sultanas into each bottle and so I was worried about infection (see above), but they came out without anything off going on in the bottle.

To my surprise, after only 3 days of bottle conditioning and a bit of burping, this method produced a delicious, well gingered and sweet bubbly GB. I was really impressed at how easy it is to create a very nice drink in only a few days. I left the remaining 2 bottles to condition an extra couple of days and they were really nice.

The hydrometer I used for this only measures up to 1.040 and it was reading off scale to what I’d imagine was about 1.048. This is higher than the calculated SG for 100g / litre so I can only assume there was sugar in the bug and the other solids must give something to the reading. These bottles had lost very little in SG during only 3 – 5 days of carbonation, so they were essentially alcohol free and sweet from un-fermented sugar.

As I enjoyed this so much, I have just yesterday made 10 litres and bottled in 12 glass with an additional PET test bottle so I can keep track of pressure and burp appropriately, as required. I hope to keep these going for a bit longer before trying them. I did watch 1 video where similar GB was tested over a period of days and supposedly there is one day where it transforms into a different drink. I’ll call this **Batch #8**.

Test #6

This is a repeat of Test #1 only this time I did 4.5 litres in the 5 litre carboy. It is still in the primary fermenter and has dropped from the calculated 1.023 down to 1.009 (as of yesterday). I’m going to bottle at 1.005 this time rather than 1.010, which should happen over the weekend.

Batch #7

This is not really a test, but for the sake of comparison, I made up a Brigalow kit (low alcohol with only 350g of raw sugar instead of 1kg). I know everybody says you can taste the AF, and I hate the stuff, but I just wanted to see what it’s like and it was on special at WW. I’m going down to the shed to bottle this today as I noticed the airlock had stopped and was sitting flat yesterday.

My notes are in the shed as I type this so I’ll edit and add some hydrometer readings and actual timeframes later on.

What next?

Well, I've put the Margaret Fulton (ground ginger) bug to sleep in the fridge. I'll feed it weekly for a while then give it another try, but I'm not too impressed at this stage, although I have yet to taste the one in the bottle. It could be contaminated anyway. I'll probably give that up, but it is a cheap method if it actually works eventually.

I'll continue to play with the jarred Indian Ginger to see if I can get it up to speed. Again, it is far more affordable than fresh ginger, unless you can grow it. I have plenty of fresh that has developed eyes and shoots so I'm going to be planting more today. I've already got some in dirt.

My attempt to recreate the GBP (although it's doubtful it is) has made for a good starter that makes a nice fermented drink anyway. I've fed it up, divided and expanded it so it will most likely keep on giving me fast production and very tasty GB. Feeding it using the strained off, boiled and steeped ginger solids is a good cheap way to keep it alive and use the by-product.

I'm very interested in trying the "Ginger Flavoured Beer" as demonstrated by Dino over in NZ on Youtube (nearly 10 years ago). Sugar, LDME and Crystal with the 30g of ginger / litre, fermented right out (like beer) and bottle primed. I'll test the use of 10g / litre of Lactose in this as Dino said it was better when back-sweetened with lemonade.

Nick's recommendation of back-sweetening with a pre-made and chilled sugar syrup is a good idea but I'm not really keen on this for obvious reasons. I will try it if necessary.